

# EUROPEAN PATENT OFFICE

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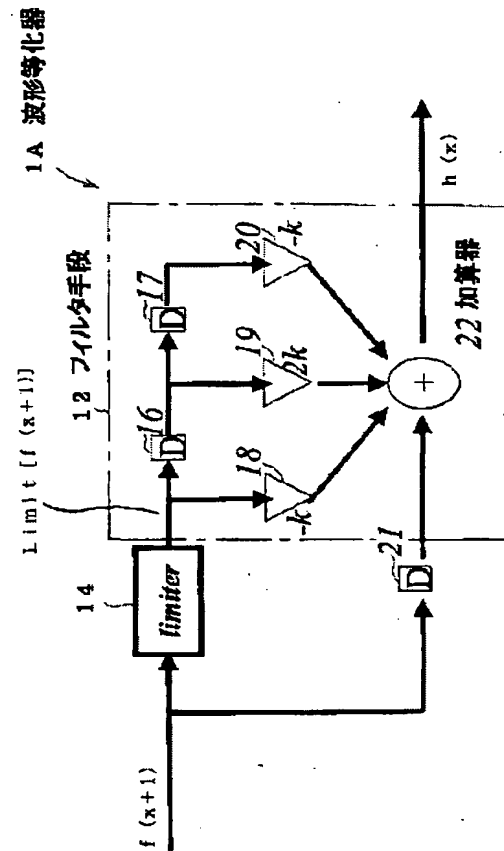
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TITLE : WAVEFORM EQUALIZER



**ABSTRACT :** PROBLEM TO BE SOLVED: To provide a waveform equalizer which equalizes the waveform of a reproduced signal of a signal recorded in a modulation system, where the minimum mark length is 2, without causing jitters or errors.

**SOLUTION:** A filter means 12 is provided with first and second delay elements 16 and 17, first, second, and third multipliers 18, 19, and 20, and an adder 22. The first and second delay elements 16 and 17 delay inputted signals by a one-clock portion corresponding to T and output delay signals. The first multiplier 18 is constituted, so as to multiply the reproduced signal, after amplitude limiting processing, by a coefficient  $-k$ , the second multiplier 19 is constituted so as to multiply the output signal of the first delay element by a coefficient  $2k$ , and the third multiplier 20 is constituted, so as to multiply the output signal of the second delay element 19 by the coefficient  $-k$ . the adder 22 is constituted, so as to output a signal obtained by addition of output signals of the first, second, and third multipliers 18, 19, and 20 and a delay means 21 as a reproduced signal  $h(x)$ .

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